

What is claimed is:

1. A percutaneous catheter for ablation of ectopic foci, comprising:  
an elongate member having a proximal end, a distal end, and an ablation  
instrument mounted at the distal end of the elongate member; and  
5 an expandable filter mounted on a distal region of the elongate member,  
wherein during use, the catheter is operated to ablate ectopic foci and the filter is  
expanded to capture necrosed tissue particles generated during the ablation.
2. The catheter of claim 1, wherein the ablation instrument is a  
thermal ablation.
- 10 3. The catheter of claim 1, wherein the ablation instrument is a laser  
ablation device.
4. The catheter of claim 1, wherein the ablation instrument is a  
microwave ablation device.
5. The catheter of claim 1, wherein the filter surrounds the ablation  
15 instrument.
6. The catheter of claim 1, wherein the filter is disposed proximal the  
ablation instrument.

7. The catheter of claim 6, wherein the filter has a proximal edge circumferentially in contact with an outer surface of the elongate member, and a distal edge which expands radially outward.

8. The catheter of claim 1, wherein the catheter includes a second  
5 lumen communicating with an aspiration port.

9. The catheter of claim 1, wherein the filter may be a basket.

10. A percutaneous guiding catheter system for ablation of ectopic foci, comprising:

an elongate member having a proximal end, a distal end, and a lumen  
10 therebetween;  
an expandable filter mounted on a distal region of the elongate member;  
and  
an ablation catheter disposed within the lumen of the elongate member,  
and having an ablation instrument at its distal end.

11. The catheter of claim 10, wherein the ablation instrument is a  
15 thermal ablation.

12. The catheter of claim 10, wherein the ablation instrument is a laser  
ablation device.

13. The catheter of claim 10, wherein the ablation instrument is a microwave ablation device.

14. The catheter of claim 10, wherein the ablation instrument extends beyond the distal end of the elongate member.

5 15. The catheter of claim 10, wherein the catheter includes a second lumen communicating with an aspiration port.

16. The catheter of claim 10, wherein the filter has a proximal edge circumferentially in contact with an outer surface of the elongate member, and a distal edge which expands radially outward.

10 17. The catheter of claim 10, wherein the proximal end of the catheter is adapted for attachment to a vacuum.

18. The catheter of claim 10, wherein the filter is a basket.

19. A method for ablation of ectopic foci, comprising the steps of:  
providing a catheter having a proximal end, a distal end, an ablation  
instrument at the distal end, and a filter on a distal region of the elongate member;  
inserting the catheter into a vessel;  
5 positioning the ablation instrument adjacent the ectopic foci;  
expanding the filter; and  
ablating the ectopic foci, wherein necrosed tissue particles generated  
during ablation are captured by the filter.

20. The method of claim 19, wherein the ectopic foci are located in the  
10 left atrium.

21. The method of claim 19, wherein the ectopic foci are located in the  
right atrium.

22. The method of claim 19, wherein the ectopic foci are located in the  
pulmonary vein.

15 23. The method of claim 19, wherein the ablation instrument is a  
thermal ablation.

24. The method of claim 19, wherein the ablation instrument is a laser  
ablation device.

25. The method of claim 19, wherein the ablation instrument is a microwave ablation device.

26. The method of claim 19, wherein the filter surrounds the ablation instrument.

5 27. The method of claim 19, wherein the filter is disposed proximal the ablation instrument.

28. The method of claim 27, wherein the filter has a proximal edge circumferentially in contact with an outer surface of the catheter, and a distal edge which expands radially outward.

10 29. The method of claim 19, wherein the catheter is inserted into the femoral artery.

30. The method of claim 19, wherein the catheter is inserted into the right subclavian artery.

31. The method of claim 19, wherein the catheter is inserted into the  
15 left subclavian artery.

32. The method of claim 19, wherein the filter is mounted on a sheath having a lumen which carries the catheter having the ablation instrument.

33. The method of claim 19, wherein the catheter includes a lumen communicating with an aspiration port at the distal end.

5                    34. The method of claim 19, wherein the catheter is inserted into the femoral vein.

35. The method of claim 19, wherein the catheter is inserted into the subclavian vein.

36. The method of claim 34, further comprising the step of aspirating  
10    necrosed tissue from the aspiration port.